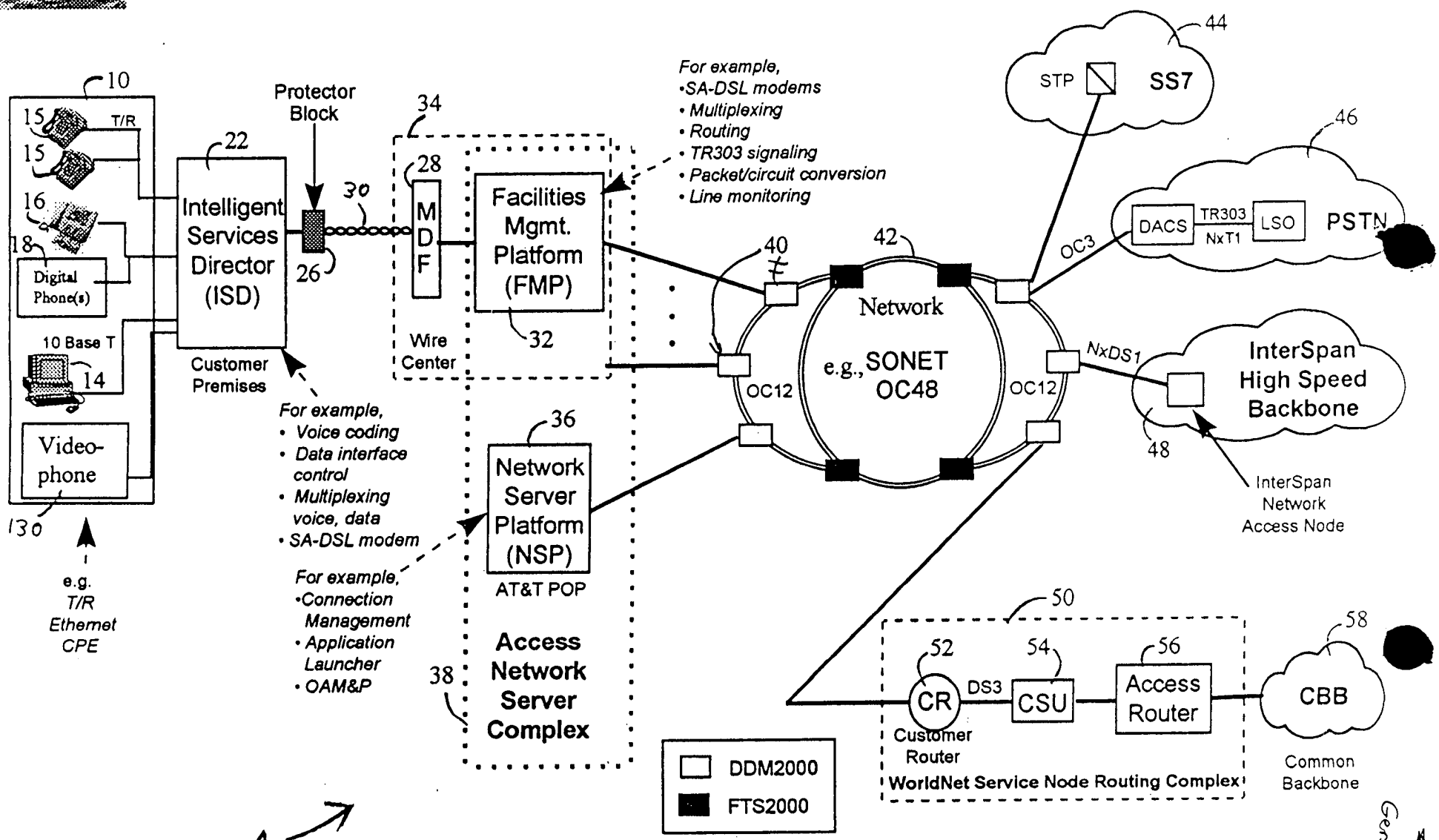
Figure 1

Location of NSP in HFTP Local Loop Network Architecture

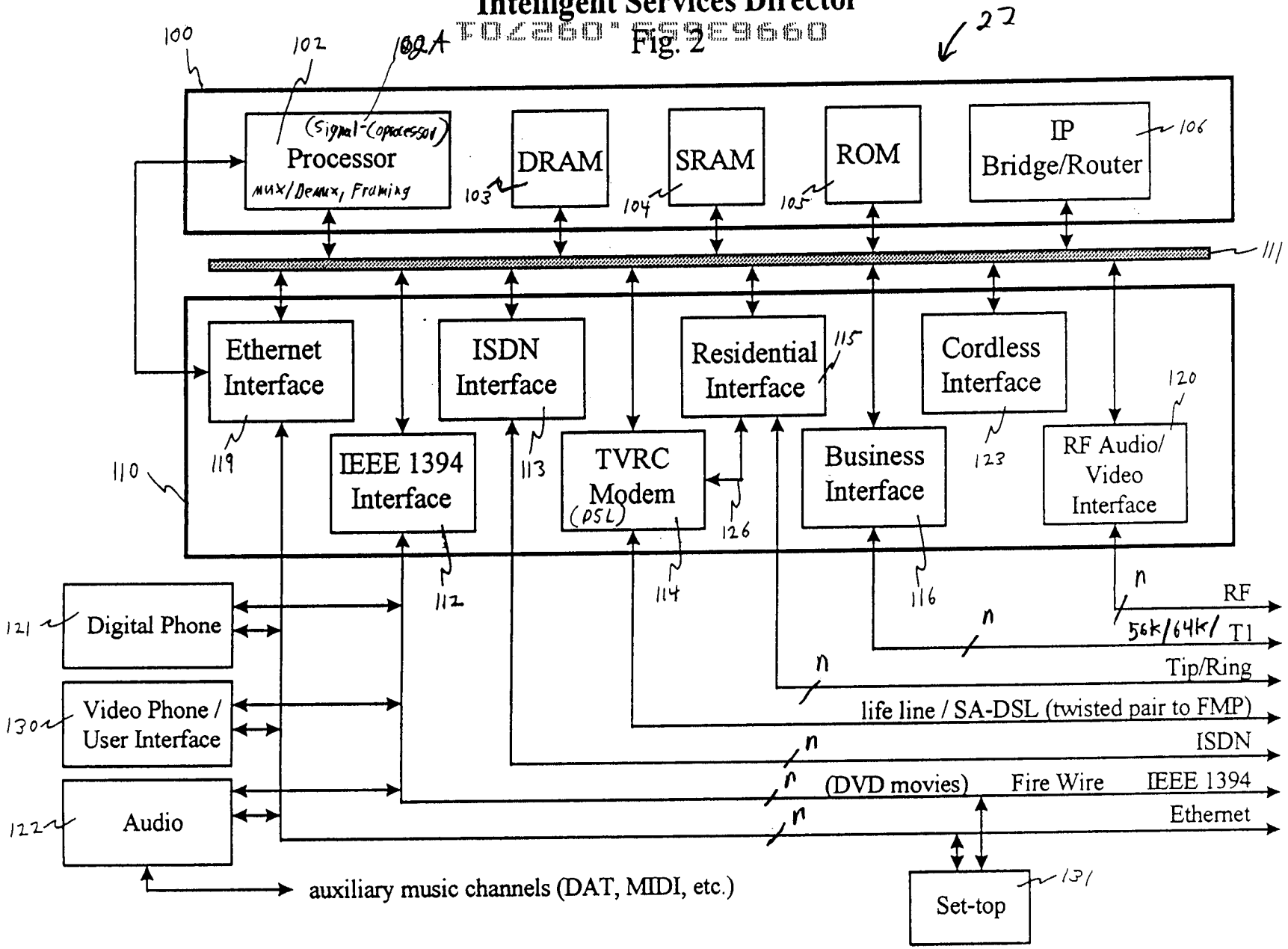


Gerszberg 72-36-22-12
Page 1 of 14

Intelligent Services Director

TO2260 "5585660

Fig. 2



Gerszberg 72-36-22-12
Page 2 of 14

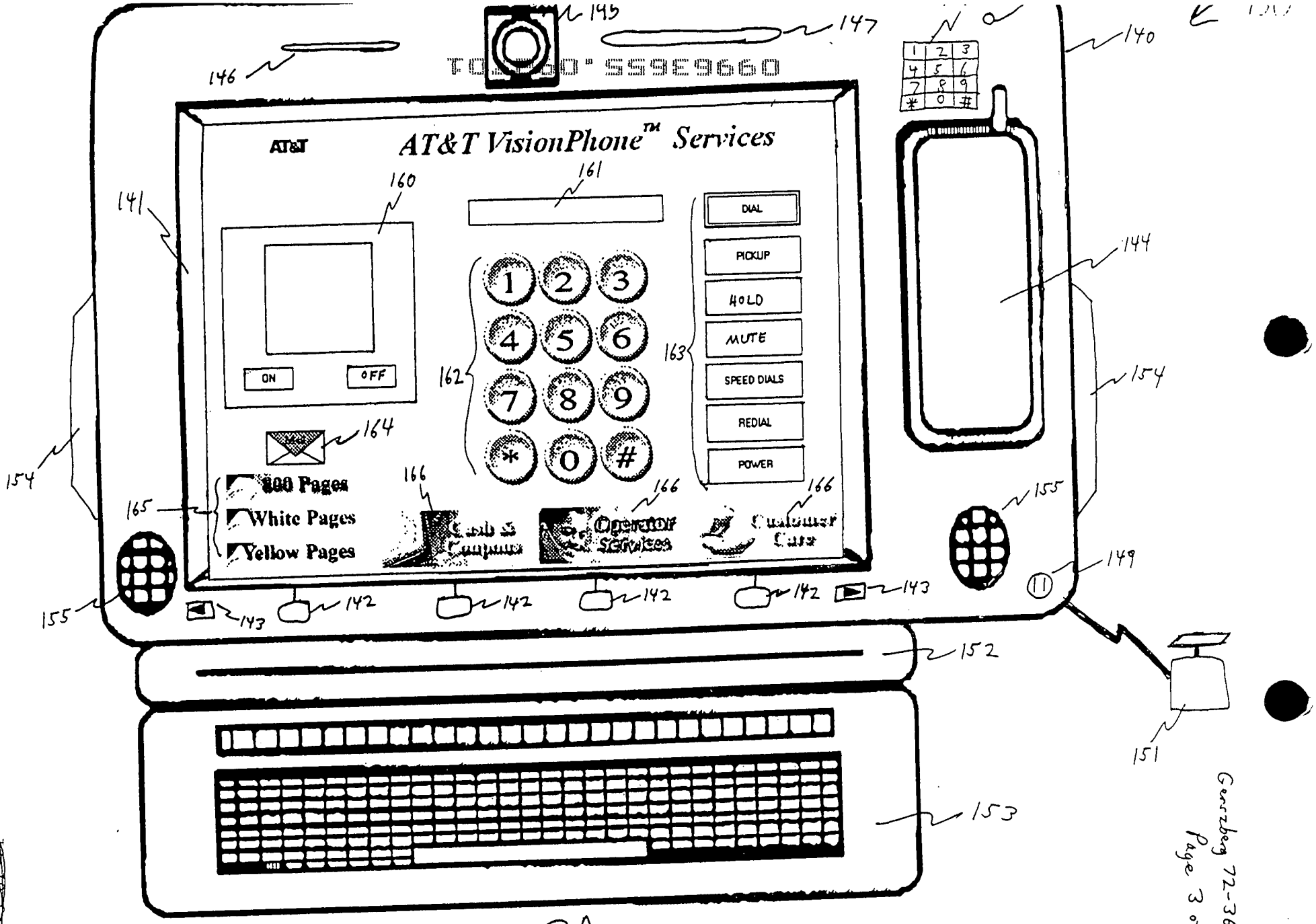

AT&T
AT&T VisionPhone™ Services
ON
OFF
DIAL
PICKUP
HOLD
MUTE
SPEED DIALS
REDIAL
POWER
800 Pages
White Pages
Yellow Pages
Operator Services
Customer Care
1 2 3
4 5 6
7 8 9
* 0 #
140
141
142
143
144
145
146
147
149
151
152
153
154
155
160
161
162
163
164
165
166

Fig. 3A

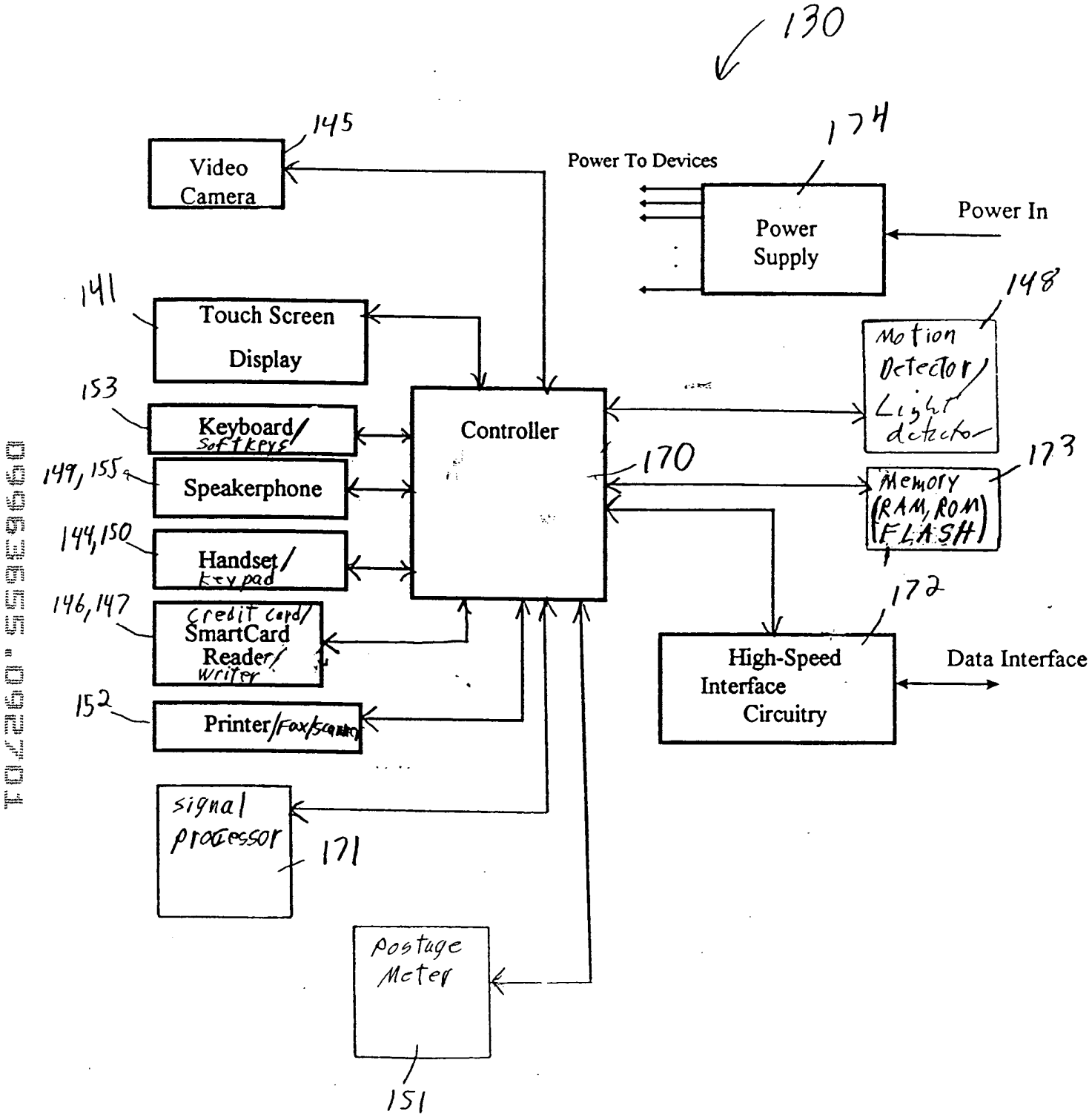

130
145
Video Camera
174
Power To Devices
Power Supply
Power In
141
Touch Screen Display
148
Motion Detector/ Light detector
153
Keyboard/ Soft keys
Controller
170
149, 155
Speakerphone
173
Memory (RAM, ROM) FLASH
144, 150
Handset/ keypad
172
146, 147
Credit card/ SmartCard Reader/ writer
High-Speed Interface Circuitry
Data Interface
152
Printer/Fax/Scanner
signal processor
171
Postage Meter
151

Fig. 3B

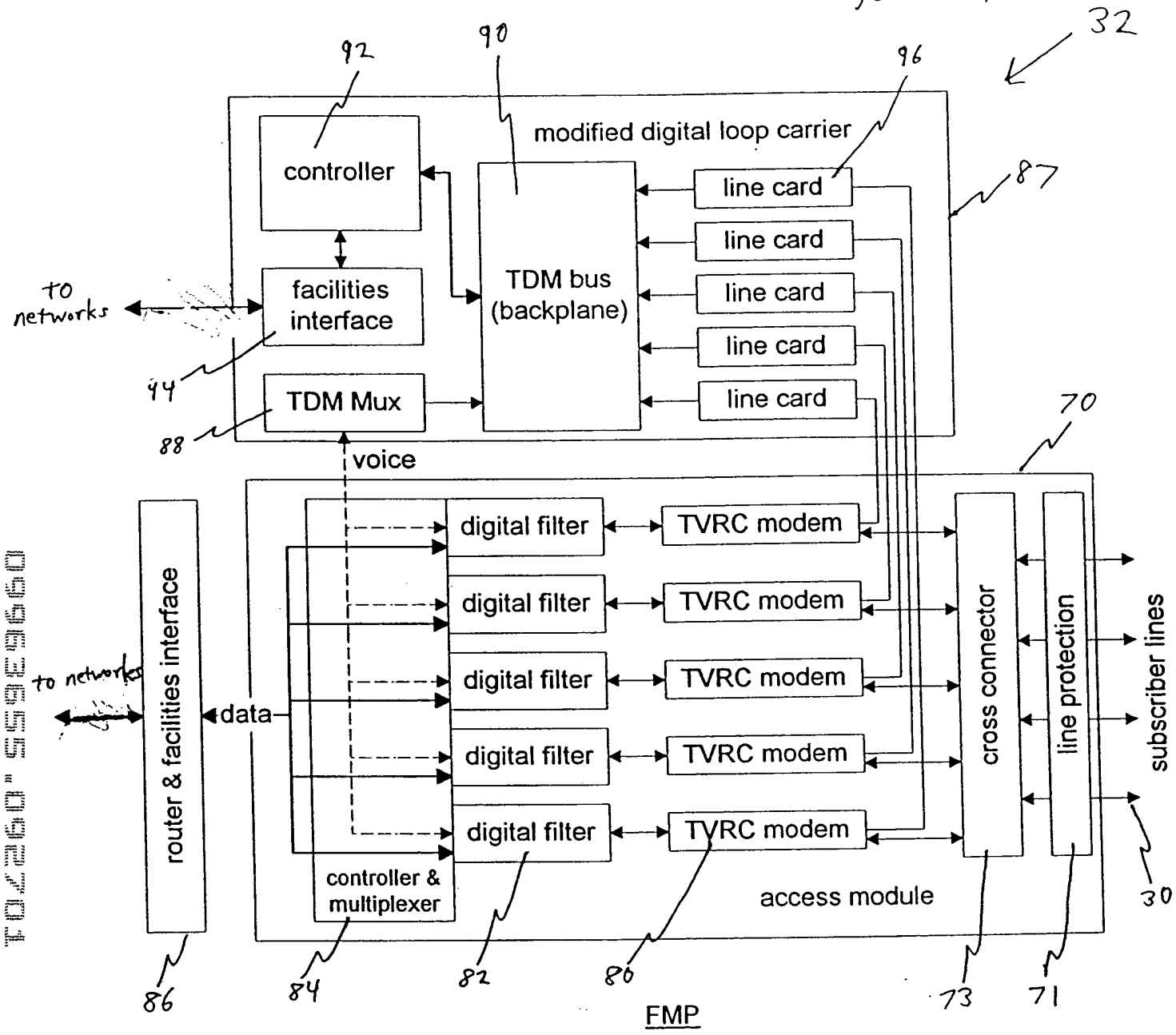

32
92
90
96
modified digital loop carrier
controller
line card
87
line card
TDM bus
(backplane)
line card
to networks
facilities interface
line card
line card
44
TDM Mux
88
voice
70
digital filter
TVRC modem
router & facilities interface
digital filter
TVRC modem
to networks
data
digital filter
TVRC modem
cross connector
line protection
subscriber lines
digital filter
TVRC modem
digital filter
TVRC modem
controller & multiplexer
access module
30
86
84
82
80
73
71
FMP

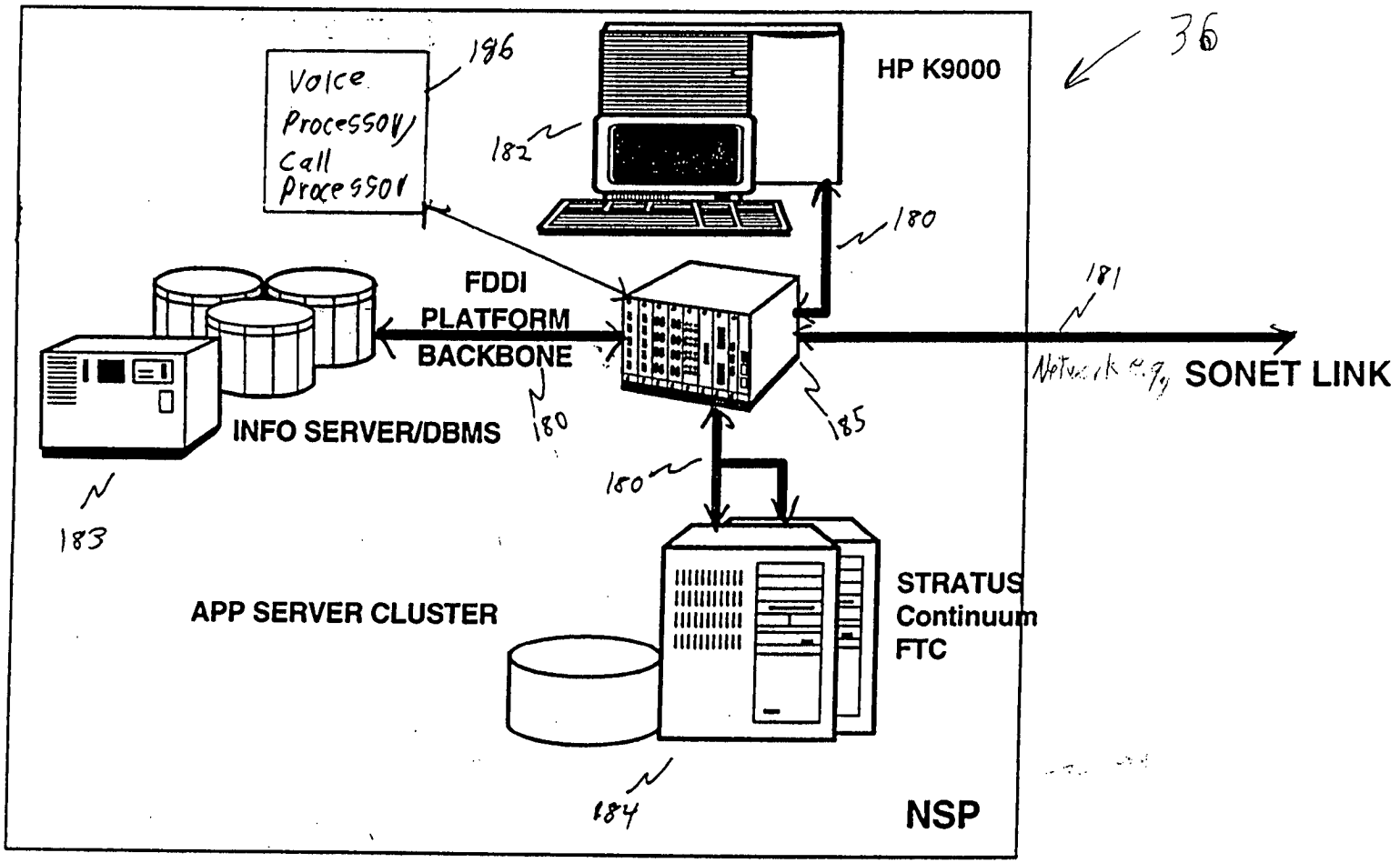
Fig. 4A

Network Server Platform Internal Architecture

Communication Technology Solutions

TOZ260"SS9E9660

Fig. 4B



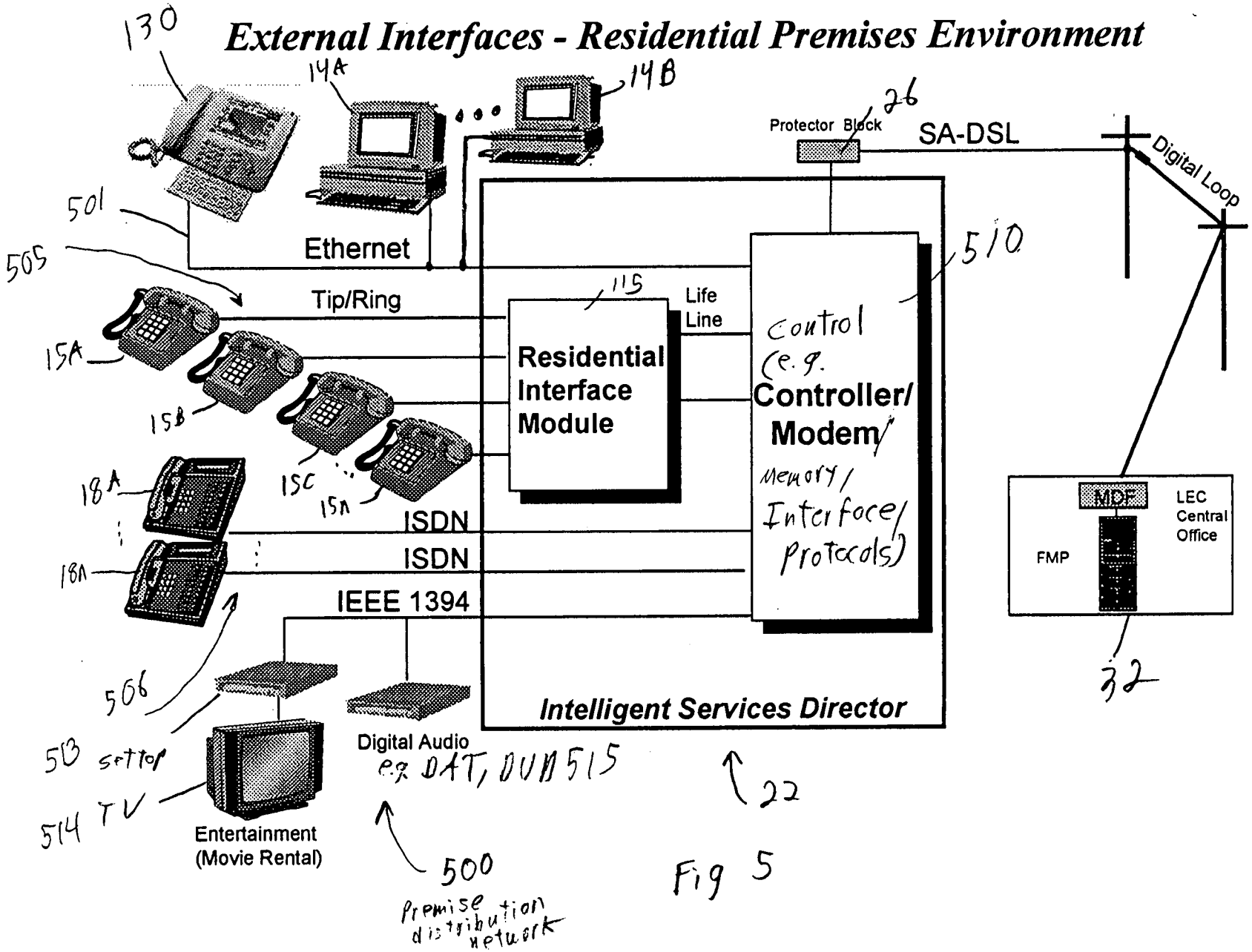

External Interfaces - Residential Premises Environment
130
14A
14B
26
Protector Block
SA-DSL
Digital Loop
501
505
Ethernet
Tip/Ring
510
115
Life Line
Residential Interface Module
Control (e.g. Controller/ Modem/ Memory/ Interface/ Protocols)
15A
15B
15C
15N
18A
18N
ISDN
ISDN
IEEE 1394
MDF
LEC Central Office
FMP
32
506
503 settop
514 TV
Entertainment (Movie Rental)
Digital Audio
e.g. DAT, DVH 515
Intelligent Services Director
22
500
Premise distribution network

Fig 5

Voice 1 Voice 2 Data 1 Data 2 (e.g. video) Ethernet

Frame Structure For Dynamic Allocation

HDR	V1	V2	V3	V4	D1	D2	D2	D2	D3	D3	.....	Dn

Fig 6A

HDR - Header containing control information

In this example, each slot is a 64 Kbps time slot

V3 is reallocated to D3

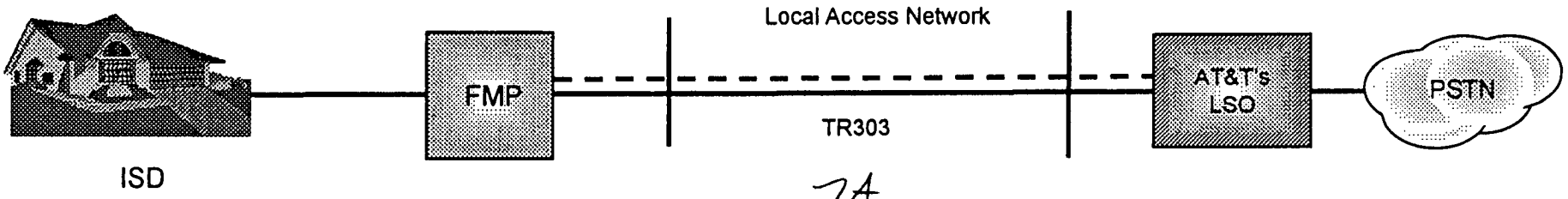
HDR	V1	V2	V3	D3	D1	D2	D2	D2	D3	D3	.....	Dn

Fig 6B

FOX-00055

Electra Systems & Services Architecture

Protocol Stack for Voice Services (Option 2) - TR303 Interface



7A

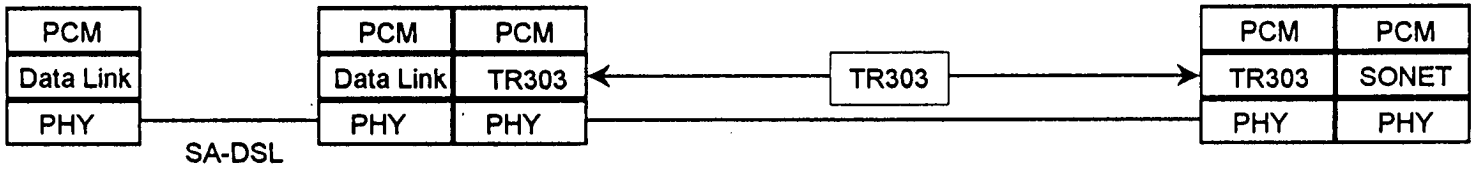


Fig 7B

ISD - Residential Application Embodiment

Residence Intelligent Service Director

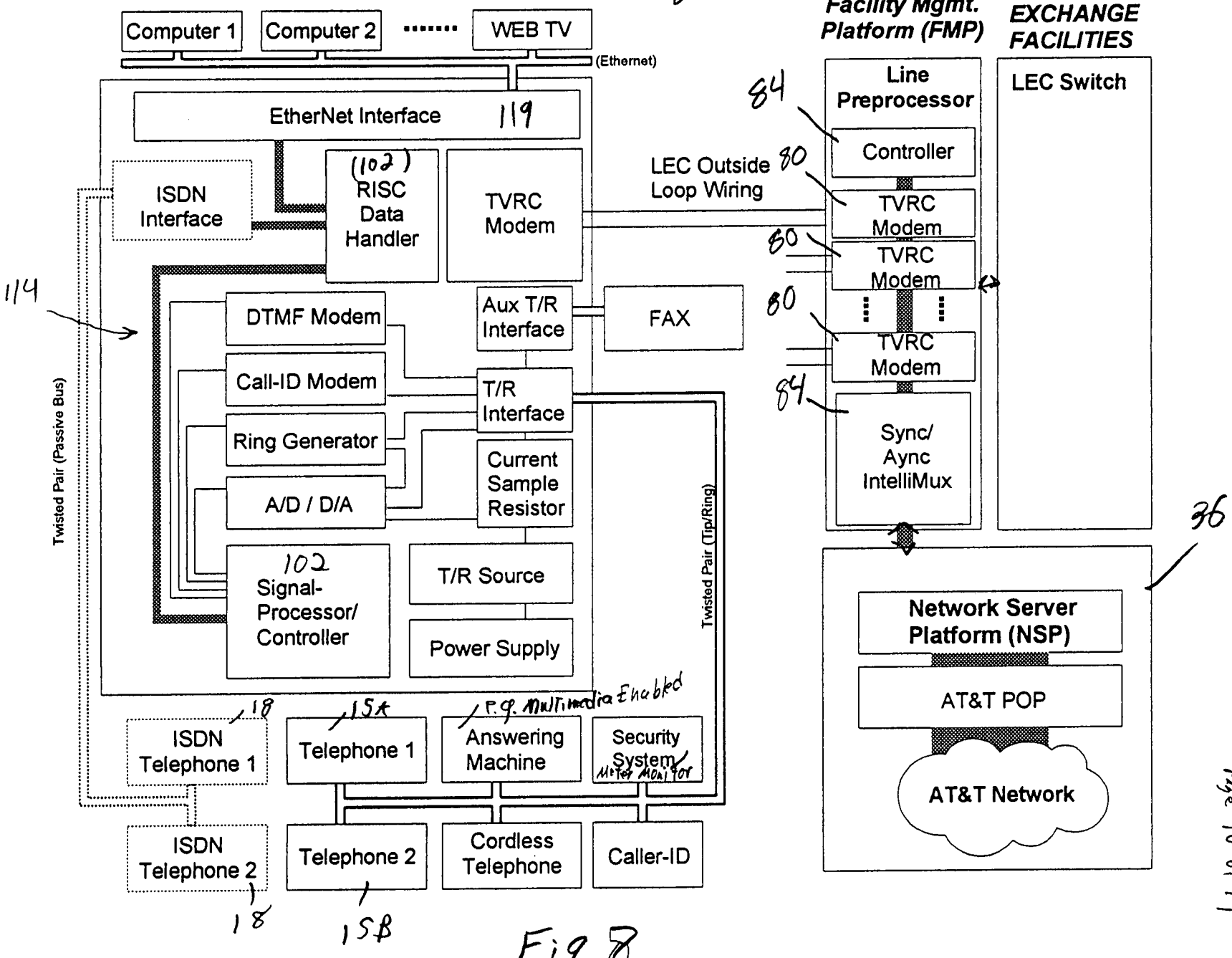


Fig 8

Gerszberg 72-36-22-12
Page 10 of 14

T07260" 5989660

External Interfaces - Business Premises Environment

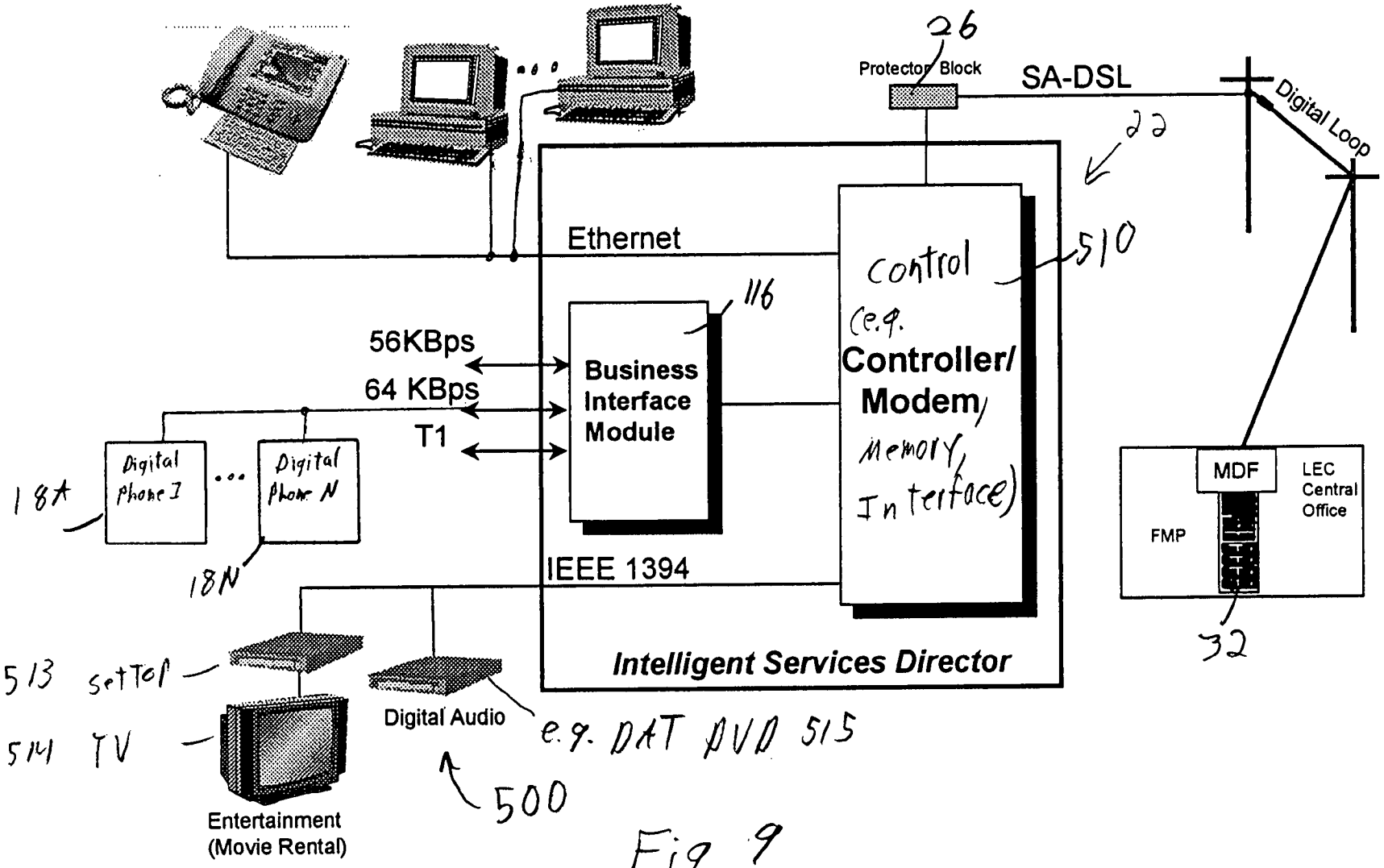


Fig 9

T07260" 5598660

ISD - Business Appliacation Embodiment

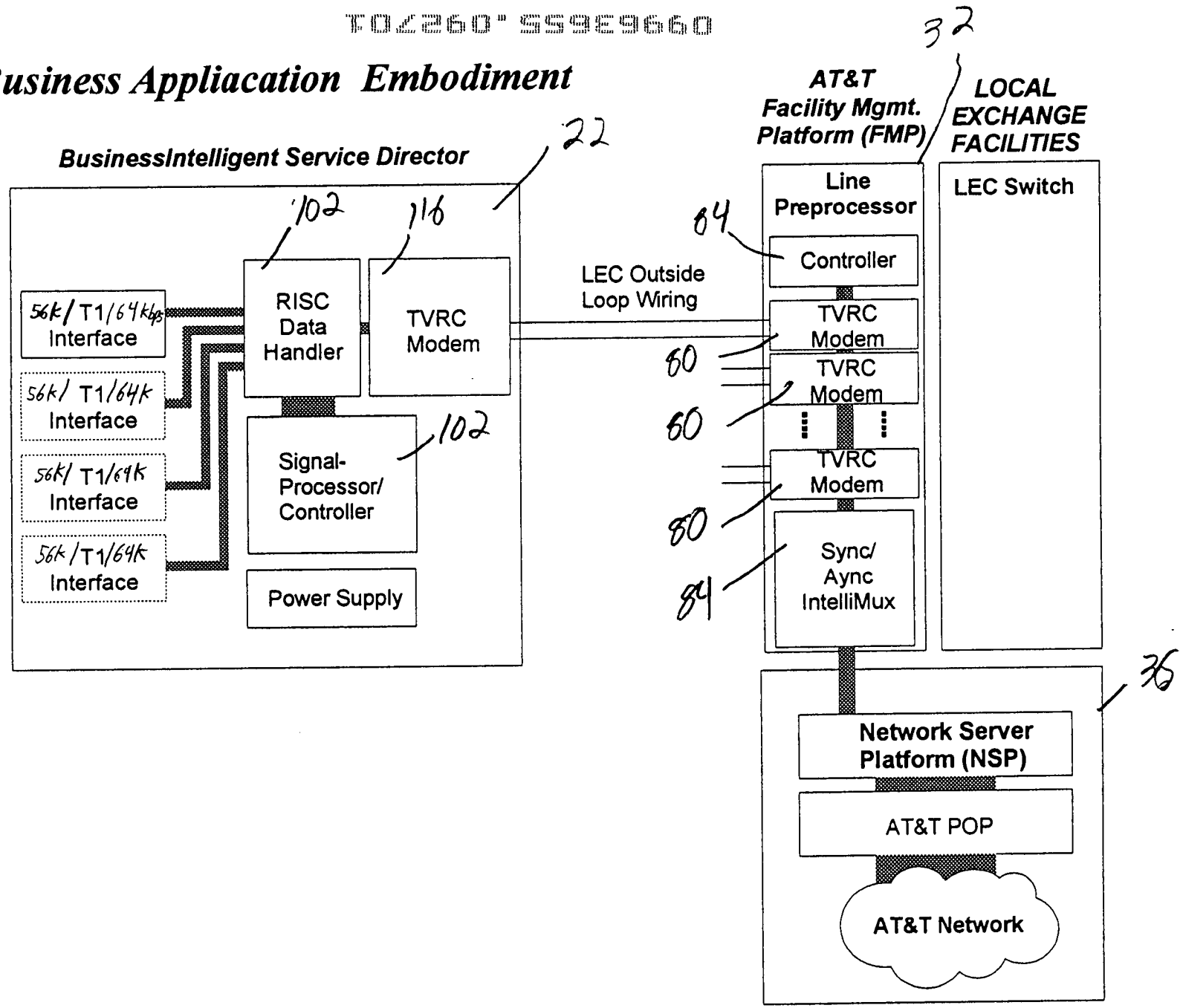


Fig. 10

Gerszberg 72-36-22-12
Page 12 of 14

TO2260 "S99E9660

Electra Systems & Services Architecture

Protocol Stack - ISD to FMP

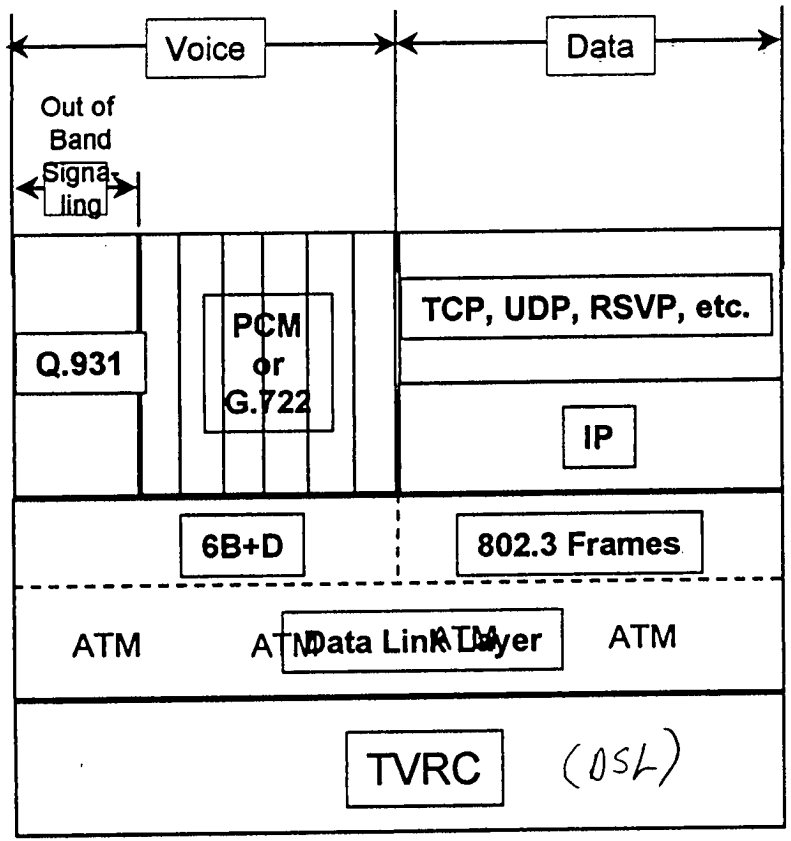


Fig. 11

Gerszberg 72-36-22-12
Page 13 of 14

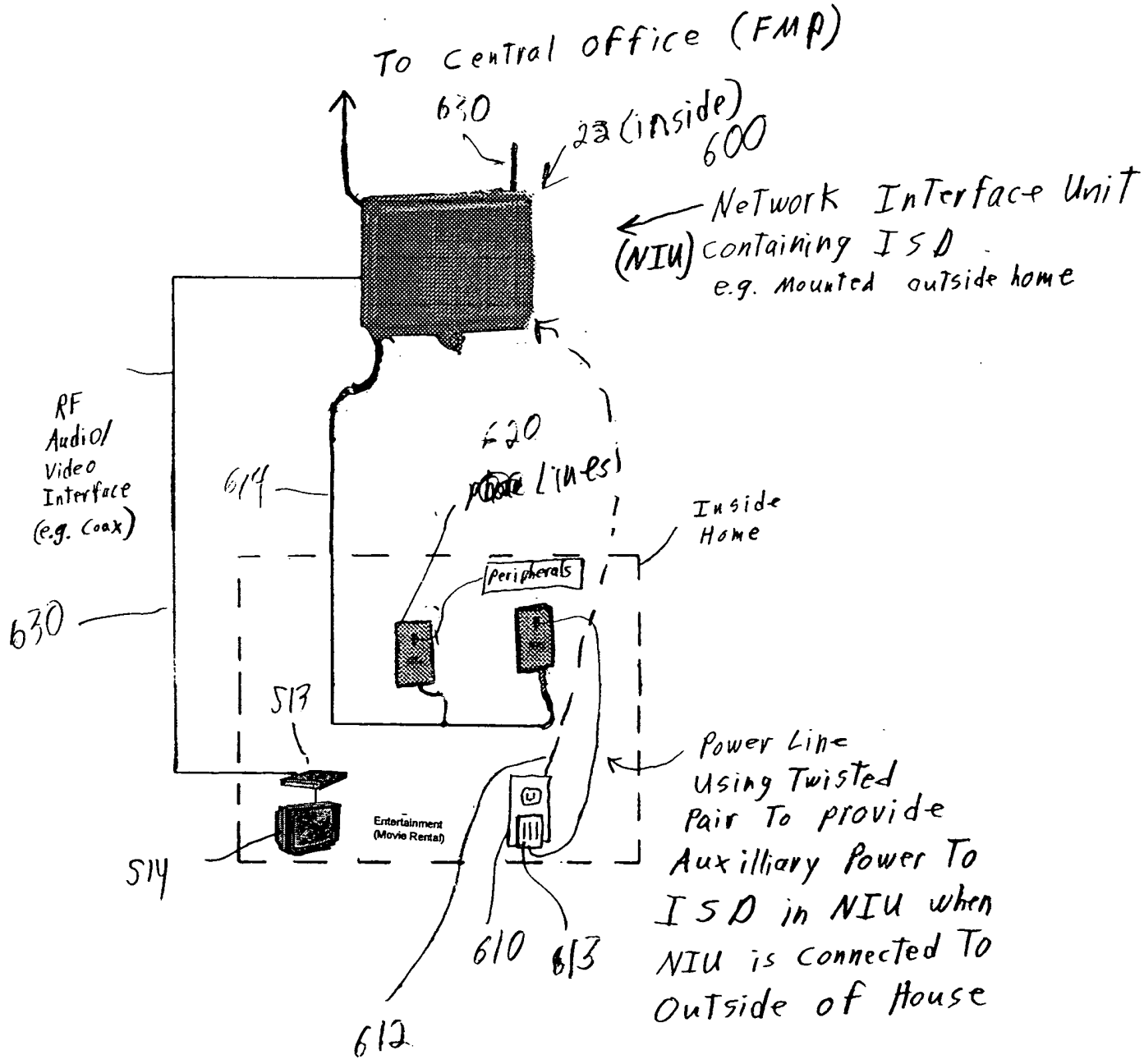

To Central office (FMP)
630
23 (inside)
600
Network Interface Unit
(NIU) containing ISD
e.g. mounted outside home
RF
Audio/
Video
Interface
(e.g. Coax)
620
lines
614
Inside
Home
Peripherals
630
513
Entertainment
(Movie Rental)
514
Power Line
Using Twisted
Pair To provide
Auxilliary Power To
ISD in NIU when
NIU is connected To
Outside of House
610
613
612

Fig 12